

HIV/AIDS KNOWLEDGE AND RISK-TAKING BEHAVIOURS AMONG YOUTHS AT A UNIVERSITY IN ENUGU, NIGERIA

Ada C. Nwaneri

<https://orcid.org/0000-0001-6388-2328>
University of Nigeria Enugu Campus
ada.nwaneri@unn.edu.ng

Okwudili C. Ezike

<https://orcid.org/0000-0002-7879-6825>
Federal Medical Centre Asaba, Nigeria
okwycallistus@gmail.com

Agnes N. Anarado

<https://orcid.org/0000-0003-3275-6964>
University of Nigeria Enugu Campus
agnes.anarado@unn.edu.ng

Ifeoma Ndubisi

<https://orcid.org/0000-0002-3319-8282>
University of Nigeria Enugu Campus
francesmary2003@yahoo.com

Jane-Lovena Onyia-Pat

<https://orcid.org/0000-0002-4507-5597>
University of Nigeria Enugu Campus
jane.onyapat@unn.edu.ng

ABSTRACT

A national sentinel survey of 2006 shows that Enugu State in south-eastern Nigeria is the worst hit by HIV infections. Despite numerous control strategies having been implemented, the state was still reported by another national HIV sentinel survey in 2010 as the worst hit by HIV/AIDS within the zone, and that youths are the most affected. The researchers conducted a cross-sectional descriptive survey to assess the HIV/AIDS knowledge and risk-taking behaviours of youths at a federal university in Enugu, south-eastern Nigeria. They adopted a multistage sampling method to recruit 460 unmarried, consenting students between 15 and 30 years of age, from three faculties of the university. Almost 90 per cent of the university youths had a sound knowledge of key concepts related to HIV/AIDS; despite this, a subset (7.39%) still engaged in risk-taking behaviours. The major risky behaviours identified include having premarital sex, having multiple sexual partners, the sharing of shaving or razor blades, the use of public clippers and tribal marking. Although an analysis of variance demonstrated no significant relationship ($t = -0.036$) between university youths' knowledge of HIV/AIDS and their related risk-taking behaviour, risky behaviours were found to be more

(13%) among respondents who had insufficient or incorrect knowledge of the disease. An analysis of covariance, however, showed that gender and socio-economic backgrounds were not determinants of the HIV/AIDS risk-taking behaviours of these youths. Therefore, factors such as attitude or culture are areas that should be focused on, and should then, along with educational awareness campaigns, help to reduce the spread and prevalence of the disease.

Keywords: HIV/AIDS risk behaviours; knowledge of HIV/AIDS; socio-economic background; university youths

Introduction

Human immunodeficiency virus (HIV) infection is a global problem with broad social, cultural, economic, political and ethical dimensions, and a wide-ranging impact. The magnitude of this pandemic is truly staggering: by 2002, HIV had infected 60 million people worldwide, and nearly 20 million adults and children had died of the disease (Kumar, Abbas, and Fausto 2005). Other statistics indicate that by the end of 2007, an estimated 22 million adults and children in sub-Saharan Africa were living with HIV; 1.5 million Africans had died from Aids-related complications, while 11.6 million African children had become orphans because of the disease (Yahaya, Jimoh, and Balogun 2010, 138).

The Joint United Nations Programme on HIV/AIDS (UNAIDS) states that by the end of 2015, approximately 37 million people globally were living with HIV/AIDS, with 2.1 million becoming newly infected and 1.1 million dying from related illnesses, while a staggering 78 million had become HIV infected since the start of the pandemic (UNAIDS 2016). According to the World Health Organization fact sheets, sub-Saharan Africa is the worst affected region, with about 25.6 million people living with HIV in 2015 (WHO 2015). In addition, sub-Saharan Africa accounts for two-thirds of the global total of new HIV infections (WHO 2015).

The first diagnosed case of Aids in Nigeria was identified in 1986, and since then the HIV/AIDS prevalence rate has risen from 1.81 in 1998 to 5.89 in 2001. Specifically as at the end of 2016, Nigeria had an average of 3.2 million people living with the disease, about 160 000 had died of related illnesses and 220 000 new infections had been listed (UNAIDS 2016). According to the Antivirus Emergency Response Team (AVERT 2016), Nigeria has the second largest HIV epidemic in the world, with 3.5 million people living with HIV in 2015. This means that the pandemic has remained a major public health problem in Nigeria since it was first diagnosed. As of 2004, among the south-eastern states the infection rate has been the highest in Enugu. The 2006 national HIV/AIDS sero-positive sentinel survey (FMOH 2006) placed this state first for HIV infection in south-east Nigeria. Several control strategies were initiated following the report; however, another national HIV sentinel survey in 2010 (FMOH 2010) showed

that the Enugu state HIV prevalence rate was 5.1 per cent which was above the national prevalence rate of 4.1 per cent, and that youths were the most affected.

The Kaiser Family Foundation reports that teens and young adults (youths) are at the centre of the epidemic, because young people aged 15–24 account for approximately half of the global total of people living with HIV/AIDS (Yahaya, Jimoh, and Balogun 2010, 138). Among the youth the epidemic remains a major health challenge, since individuals in that phase are probably at their most active, vulnerable and challenging – a normal part of the developmental process of human beings. Youths who already have to cope with innumerable other challenges may inadvertently be exposed to a wide range of compromising behaviours that are detrimental to their health. This may especially be the case if they are unaware of their susceptibility to certain health problems or are ignorant of their severity, as is often the case with HIV/AIDS. To curb the menace of this epidemic, the risks, which youths engage in – and which may inadvertently expose them to HIV infection – must be identified and dealt with timeously. In Nigeria, Danjin and Onajole (2010) studied HIV/AIDS risk behavioural tendencies among secondary school students in Gombe. Their study reported that sex-related risky behaviours were still prevalent among this group, and that more females tended to report a negative HIV status than males, while HIV status reporting was significantly higher among rural respondents. The present study went beyond sexually related risks, as will become clear later in this article.

Adefuye et al. (2009, 281) also examined HIV sexual risk behaviours and perceptions of risk among college students in a predominantly African-American commuter urban university in the Midwest in the United States of America. The results of that study showed that perceptions of HIV risks were generally poor, that students in the study engaged in various HIV risk behaviours, and had a poor appreciation of their risk of being infected with HIV.

Youths are frequently exposed to HIV/AIDS risks, both directly by consciously engaging in sexual activities and indirectly by peer group influence or under the influence of substance use, which underscores the urgent need to solve this matter.

Problem Statement

Worldwide, HIV/AIDS has remained a public health challenge because of its devastating effects on the economic, social, political and technological development of any nation where prevalence rates are high. Significant funding is being diverted into prevention programmes and the treatment of those afflicted. Many argue that such amounts could have been diverted into infrastructural and technological development projects, and that combatting the disease eats into funds, which would otherwise be invested elsewhere. As already noted, the number of youths who have died (and continue to die) from Aids-related illnesses is alarming. This affects a nation's economy, as youths constitute the

future major workforce of any nation. Hence, the deaths of these youths lead to a loss of manpower, which in turn leads to a loss of productivity, and subsequently hampers development.

More youths than adults die from HIV because they are always at the forefront of risky behaviours, with few realising the consequences of their actions. Often, youths can avoid certain risky behaviours if they become aware of them – and their impact. Unfortunately, only a few studies have been carried out to uncover the risky behaviours youths indulge in, in relation to HIV/AIDS, particularly in south-eastern Nigeria. The researchers were particularly concerned with the HIV/AIDS risk-taking behaviour of those youths, and how that relates to their knowledge of the disease.

Research Purpose

The purpose of this study was to determine the HIV/AIDS risk-taking behaviours of youths at a university in Enugu State, Nigeria, as it relates to their knowledge of HIV/AIDS, their gender and their socio-economic background. To achieve the purpose of the study, the following specific objectives were identified: to determine what youths at a university in Enugu know about HIV/AIDS, to find out what HIV/AIDS risk-taking behaviours these youths engage in, to investigate the relationship between these risk-taking behaviours and the youths' knowledge of the disease, to determine whether there are gender differences in terms of such risk-taking behaviours, and to uncover whether the youths' socio-economic background affects their risk-taking.

Research Design and Methods

Research Design

The design used for this study was a cross-sectional descriptive survey method, which, according to Shuttleworth (2008), is a scientific, non-experimental method, which involves observing and describing the behaviour of a subject, without influencing it in any way. This design was deemed appropriate for a study seeking to investigate the behaviour of a specific group of subjects, as it manifested at the time of the study.

Setting

This study was carried out in one of the four universities in the Enugu metropolis.

Population and Sampling

At the time of the study, the university in question had a total cohort of 6 588 students. The potential population for this study, which is university youths aged 15–30, sampled from across three faculties, comprised 4 551 students (69.17% of the total population) (University Records Department 2014). Slovin's formula, $n = N / (1 + N e^2)$, was employed to determine the sample size ($n = 540$) (www.statisticshowto.com/how-to-use-slovins-formula/).

A multistage sampling technique was applied in recruiting eligible, consenting respondents to participate in the study. During the first stage, a simple random sampling method was employed to select three out of the six faculties on the university campus, namely Health Sciences and Technology, Business Administration, and Law. During the second stage, three departments were randomly selected from each faculty, which housed more than one department. Stratified proportionate sampling was then adopted to obtain the sample size from each department. A convenient sampling method was used, taking into consideration the following inclusion criteria: a respondent had to be between 15 and 30 years of age, unmarried, and freely consenting to participate.

Data Collection

Data collection was done by means of a 78-item, pretested, researchers-developed, self-administered questionnaire. To compile the questionnaire, the researchers drew on an extensive literature search on the HIV/AIDS risk-taking behaviours of youths, in line with the stated objectives of this study. The questionnaire was structured according to a three-point Likert response pattern of “Yes”, “No” and “I don't know”, to tap into the knowledge of the university youths.

Face and content validity was achieved by handing the instrument to other experts and researchers in the field of virology (HIV/AIDS), to determine (at face value) the appropriateness of the instrument in measuring what was being studied. A Cronbach's alpha index of 0.832 and an inter-item (standardised) coefficient of 0.794 were obtained in testing for the reliability of the research instrument. Since these coefficients were greater than 0.7, they were deemed adequate for the reliability of the test instrument.

The distribution of the questionnaires in the various departments to students who met the inclusion criteria, was done with the help of three research assistants trained to assist with the study. The distribution of questionnaires lasted for a week, after which 460 completed questionnaires (out of the 540 distributed) were returned – an 85.2 per cent response rate.

Data Analysis

The responses to items in the instrument were subjected to simple descriptive statistics, ranging from percentages and mean scores to standard deviations, with the aid of the SPSS software version 17. The analysis of variance (ANOVA) and regression analysis were used to test for associations between the HIV/AIDS risk-taking behaviours of the respondents and their knowledge of the disease, their gender and their socio-economic background. An alpha level of $p < 0.05$ was reported.

Ethical Considerations

The Research Ethics Committee of a federal teaching hospital in Enugu State granted ethical approval for the study, and an administrative permit was obtained from the appropriate university authority. Informed oral consent was obtained from each respondent, prior to the administration of the questionnaire.

Results

The greatest number of respondents (123[26.7%]) hailed from Medical Laboratory Sciences, while the fewest came from Banking and Finance (28[6.1%]). The majority (285[62%]) of the respondents were males, many (141[30.7%]) in the third year of their studies. The modal age fell within the range of 20–24 years (62.2%), with 25.3 per cent of the respondents reporting their parents had a degree or a Higher National Diploma as highest educational level. (Table 1.)

Table 1: Socio-demographic profile of respondents (n = 460)

Faculties	Departments	Frequency	Percentage
Business Administration	Accountancy	77	16.7
	Marketing	30	6.5
	Banking and Finance	28	6.1
Law	Law		
Health Sciences	Medical Laboratory Sciences	123	26.7
	Medical Rehabilitation	58	12.6
	Nursing Sciences	60	13.1
Year of study	1	36	7.8
	2	127	27.6
	3	141	30.7
	4	82	17.8

	5	74	16.1
Age	15–19	73	15.9
	20–24	286	62.2
	25–30	101	21.9
Gender	Male	285	62.0
	Female	175	38.0
Religion	Christianity	446	97.0
	Islam	11	2.4
	Other	3	0.7
Father's educational qualification(s)	FSLC	52	11.4
	JSSCE	12	2.7
	SSCE	84	18.4
	OND	46	10.1
	HND/degree	116	25.3
	Master's degree/consultant	78	17.1
	PhD	28	6.2
	None	44	9.7
Mother's educational qualification	FSLC	78	17.0
	JSSCE	14	3.0
	SSCE	84	18.3
	OND	51	11.1
	HND/degree	121	26.3
	Master's degree/consultant	44	9.6
	PhD	21	4.6
	None	47	10.2

The respondents' socio-economic levels were classified based on the items they have in their homes (see Table 2). A five-point Likert response scale was scored as follows: "don't have" (1), "borrowed" (2), "not sure" (3), "have" (4) and "have more than one" (5), to enable a mean decision rule of 3 being used to classify respondents into those from high (≥ 3) and low (< 3) socio-economic backgrounds (see Table 2). Of the 460 respondents, 98 (21.30%) were from privileged socio-economic backgrounds, while the remaining 362 (78.70%) were not.

Table 2: Difference in socio-economic backgrounds of university youths

Possessions	One (%)	Two (%)	Three (%)	Four (%)	Five (%)	Mean	Std
Television set	39(8.5)	10(2.2)	47(10.2)	191(41.5)	173(37.6)	2.03	1.15
Compact disc	81(17.6)	6(1.3)	64(13.9)	188(40.9)	121(26.3)	2.43	1.36
Video set	68(14.8)	8(1.7)	44(9.6)	219(47.6)	121(26.3)	2.31	1.29
Radio set	33(7.2)	8(1.7)	51(11.1)	253(50.7)	135(29.3)	2.07	1.06
Gas cooker	165(35.9)	7(1.5)	60(13.0)	162(35.2)	66(14.3)	3.1	1.54
Electric iron	24(5.2)	8(1.7)	54(11.7)	235(51.1)	139(30.2)	2.01	0.98
Electric fan	26(5.7)	4(0.9)	53(11.5)	210(45.7)	167(36.3)	1.94	1.01
Air conditioner	213(46.3)	5(1.1)	66(14.3)	102(22.2)	74(16.1)	3.39	1.61
Desktop computer	187(40.7)	8(1.7)	71(15.4)	150(32.6)	44(9.6)	3.31	1.5
Refrigerator/ freezer	78(17.0)	6(1.3)	119(25.9)	166(36.1)	91(19.8)	2.51	1.2
Microwave	153(33.3)	7(1.5)	155(33.7)	109(23.7)	36(7.8)	3.29	1.35
Laptop computer	111(24.1)	6(1.3)	148(32.2)	128(27.8)	67(14.6)	2.93	1.36
Water system toilet	66(14.3)	7(1.5)	146(31.7)	144(31.3)	97(21.1)	2.57	1.25
Cushioned chairs in sitting room	47(10.2)	12(2.6)	145(31.5)	160(34.8)	96(20.9)	2.47	1.16
Generator set	85(18.5)	8(1.7)	148(32.2)	147(32.0)	72(15.7)	2.75	1.28
Rug	76(16.5)	6(1.3)	158(34.3)	149(32.4)	70(15.2)	2.71	1.24
Motorcycle	179(38.9)	9(2.0)	155(33.7)	78(17.0)	39(8.5)	3.46	1.37
Shower system	135(29.3)	3(0.7)	160(34.8)	90(19.6)	72(15.7)	3.08	1.41
Tiles	133(28.9)	8(1.7)	146(31.7)	98(21.3)	75(16.3)	3.06	1.43
Bathtub	142(30.9)	5(1.1)	157(34.1)	96(20.9)	60(13.0)	3.16	1.31
Personal car	150(32.6)	4(0.9)	156(33.9)	98(21.3)	52(11.3)	3.22	1.39
Solar energy inverter	253(55.0)	5(1.1)	156(33.9)	28(6.1)	18(3.9)	3.98	1.21
Swimming pool	265(57.6)	9(2.0)	147(32.0)	20(4.3)	19(4.1)	4.05	1.2
Flower garden	226(49.1)	9(2.0)	148(32.2)	50(10.9)	27(5.9)	3.78	1.32

Decision rule: If mean < 3.5, low; if mean ≥ 3.5, high socio-economic background

Table 3 reflects the respondents' knowledge of key concepts related to HIV/AIDS. The entire group of respondents had heard about the disease, their major sources of information being television (243[52.8%]) and radio (210[45.7%]). The majority knew

that HIV is caused by a virus (mean = 2.85 ± 0.49), while less than average knew it cannot be cured (mean = $2.17 < 2.5$ mean decision rule). Moreover, misconceptions still existed among them about the causes of HIV/AIDS: 21(4.6%) said the disease is caused by bacteria, while 14(3.0%) identified the cause as fungi. However, most respondents were able to identify the correct modes of transmission as sexual contact (2.81 ± 0.53), blood transfusion (2.87 ± 0.43), mother-to-child transmission (2.78 ± 0.55), injection with a contaminated needle (2.82 ± 0.52), and the sharing of sharps (shaver/razor blade) or being in contact with contaminated blood (2.77 ± 0.58). The respondents equally had good knowledge of HIV/AIDS prevention measures: having one faithful sexual partner (2.62 ± 0.73), the proper screening of blood for transfusion (2.82 ± 0.52), the use of sterile instruments (2.84 ± 0.50), abstinence (2.87 ± 0.46), and not using public clippers (2.80 ± 0.56). In summary, and based on the decision rule of the mean score ≥ 2.5 as good knowledge, and < 2.5 as poor knowledge, 414 (90.0%) respondents showed good knowledge of HIV/AIDS, while 46 (10.0%) showed poor knowledge of the key concepts related to the disease.

Table 3a: Respondents' knowledge about HIV/AIDS (n = 460)

Questions	Responses	Frequency	Percentage
Have you heard of HIV/AIDS?	Yes	460	100.0
If yes, when?	Last year	8	1.7
If yes, when?	Before last year	452	98.3
Sources of information	Parents	145	31.5
Sources of information	Other students or friends	131	28.5
Sources of information	Radio	210	45.7
Sources of information	Television	243	52.8
Sources of information	Posters	128	27.8
Sources of information	Magazines/newspapers	185	40.2
Sources of information	Other	60	13.0

Table 3b: Respondents' knowledge about HIV/AIDS (n = 460)

HIV is caused by:	Yes (%)	Do not know (%)	No (%)	Mean	Std dev
Bacteria	21(4.6)	158(34.3)	281(61.1)	2.28	1.04
Virus	415(90.2)	20(4.3)	25(5.4)	2.85	0.49
Fungi	14(3.0)	161(35.0)	285(62.0)	2.24	1.01
Students cannot contract HIV/AIDS	16(3.5)	37(8.0)	407(88.5)	2.84	0.68
HIV/AIDS can be cured with herbs	41(8.9)	129(28.0)	290(63)	2.44	1.10
HIV/AIDS has no cure	201(43.9)	136(29.7)	121(26.4)	2.17	0.82
HIV/AIDS can be transmitted by:	Yes (%)	Do not know (%)	No (%)	Mean	Std dev
Insect (mosquito) bite	57(12.4)	74(16.1)	329(71.5)	2.77	1.01
Sexual contact	402(87.4)	29(6.3)	29(6.3)	2.81	0.53
Blood transfusion	420(91.3)	22(4.8)	18(3.9)	2.87	0.43
Kissing	182(39.6)	105(22.8)	173(37.6)	2.02	0.88
Mother-to-child	387(84.3)	43(9.3)	29(6.3)	2.78	0.55
Injection with contaminated needle	408(88.7)	23(5.0)	29(6.3)	2.82	0.52
Handshake	21(4.6)	44(9.6)	395(85.9)	2.75	0.76
Sharing of items like clothes	39(8.5)	51(11.1)	370(80.4)	2.73	0.90
Sharing of sharps (shavers and razor blades) stained with blood	393(85.4)	30(6.5)	37(8.0)	2.77	0.58
HIV/AIDS can be prevented by:	Yes (%)	Do not know (%)	No (%)	Mean	Std dev
Having one faithful sexual partner	351(76.3)	42(9.1)	67(14.6)	2.62	0.73
Taking drugs before intercourse	36(7.8)	80(17.4)	344(74.8)	2.53	0.93
Use of condom	249(54.1)	83(18.0)	128(27.8)	2.26	0.87
Use of treated mosquito net	62(13.5)	61(13.3)	337(73.2)	2.78	0.98

A considerable number of respondents engaged in HIV/AIDS-related risk-taking behaviours, as is evident from Table 4. The top four most frequently engaged risky behaviours, which the students reported, include the use of public clippers (69.3%),

sharing razor blades (47.2%), engaging in premarital sex (33.5%) and having multiple sexual partners (24.3%). Among the respondents from underprivileged socio-economic backgrounds, 7.46 per cent ($n = 27$) engaged in risky behaviours, while 7.14 per cent ($n = 7$) of the 98 respondents from privileged socio-economic backgrounds also engaged in HIV/AIDS risky behaviours. The remaining 335 (92.54%) and 91 (92.86%) respondents from both socio-economic backgrounds did not engage in risk-taking. There was no significant difference ($F_{critical} = 3.8415 > F_{calculated} = 0.011$) between the university youths from both socio-economic backgrounds in respect of their HIV/AIDS risk-taking behaviours. The regression analysis showed no significant relationship ($p > 0.05$) between the youths' knowledge about HIV/AIDS and their HIV/AIDS risk-taking behaviours.

In conclusion, although these university youths expressed a sound knowledge of the disease, there was no significant relationship between their related knowledge and their risk-taking behaviours. In addition, the result of the ANOVA test showed no significant gender differences ($F_{critical} = 3.8415 > F_{calculated} = 0.011$) in terms of the HIV/AIDS risk-taking behaviours of university youths.

Table 4: HIV/AIDS risk-taking behaviours of university youths ($n = 460$)

HIV/AIDS risky behaviours undertaken	Yes (%)	No (%)
Premarital sex	154(33.5)	306(66.5)
Multiple sexual partners	112(24.3)	348(75.7)
Have sex often	60(13.0)	400(87.0)
Tribal marking	63(13.7)	397(86.3)
Circumcision	0	460(100)
Blood transfusion	99(21.5)	361(78.5)
Use of public clippers	319(69.3)	141(30.7)
Share razor blades	217(47.2)	243(52.8)
Intercourse with same sex	30(6.5)	430(93.5)
Intercourse with HIV/AIDS sufferer	31(6.7)	429(93.3)
Blood covenanting	31(6.7)	429(93.3)
Blood oath taking	33(7.2)	427(92.8)

HIV/AIDS risky behaviours undertaken	Yes (%)	No (%)	
Premarital sex	154(33.5)	306(66.5)	
Multiple sexual partners	112(24.3)	348(75.7)	
Have sex often	60(13.0)	400(87.0)	
Cross-tabulation of respondents' HIV/AIDS knowledge, gender, socio-economic levels and their risk-taking behaviours			
	HIV/AIDS risk-taking behaviour		
Knowledge	Risky behaviour	Safe behaviour	Total
Poor knowledge	6	40	46
Good knowledge	28	386	414
Total	34	426	460
Gender			
Male	22	263	285
Female	12	163	175
Total	34	426	460
Socio-economic background			
Low	27	335	362
High	7	91	98
Total	34	426	460

Discussion

This study examined the HIV/AIDS risk-taking behaviours of university youths at a federal university in Enugu, Nigeria, as it relates to their knowledge of HIV/AIDS, their gender and their socio-economic background. The findings revealed that the youths had a good knowledge of the disease, obtained from two major sources of information: television (52.8%) and radio (45.7%). There was a possible association between the youths' knowledge and their educational background. A university environment offers a variety of opportunities for learning and gaining awareness about issues of importance to public health (of which HIV/AIDS is one). There is also an HIV/AIDS youth-friendly centre at the university under study, which occasionally organises lectures and seminars for staff and students. Thus, although many campaigns and awareness programmes have been presented on this infectious disease, more programmes are needed, and they should be accessible to all, advertised via bulletins and posters to improve even basic awareness. As noted by Suominen et al. (2011, 917), the youths participating in their study had a fairly good knowledge of HIV/AIDS, but lacked knowledge of certain basic concepts.

Despite being knowledgeable of the facts, some youths still engaged in risky behaviours, such as engaging in premarital sex, having multiple sexual partners, tribal marking, and the use of public clippers and shared razor blades. A study by Adefuye et al. (2009, 281) has shown that students engage in various HIV risk behaviours, but have a poor appreciation of their risk of HIV infection. As the ANOVA test of statistics revealed, knowledge was not a determinant of HIV/AIDS risk-taking among the university youths in question. This means that knowledge was not the main factor influencing their behaviours, but rather that cultural or attitudinal factors and peer influence may have influenced them. This was clearly revealed by the four most frequently engaged risky behaviours of the students. Meaning that what the students know has not affected their attitudes; thus they need an attitudinal change. This is in line with the findings of Suominen et al. (2011) that although most of the students in their study agreed that their knowledge of HIV/AIDS affected their risk behaviours, others felt it was still a matter of personal choice, their own attitudes and individual practices. This might be attributed to peer group influence and the thrill of pleasure-seeking behaviour – as Abdulrahman (2007) opines, one of the reasons why people engage in risky behaviour is for the pleasure associated with it. Another factor is that risk-taking could be a sign of loyalty, which may mean that the risk-taker's perceived seriousness of the disease is low. As stated in the health belief model (Abdulrahman 2007), a person's opinion of how serious a condition is, and how serious its consequences are, will determine his/her actions. Although Abbas and Akarro (2012, 116) found that knowledge is a determinant of risk-taking, that study was more concerned with sexual behaviour.

This study also found that neither gender nor socio-economic background were determinants of the HIV/AIDS risk-taking behaviours of university youths. This means that what these youths learnt about the disease affected their behaviour, irrespective of their gender. Since in this instance the respondents were in the same environment, receiving almost similar information about the disease, chances are their behaviours would be equally influenced, irrespective of their gender. The still observable but insignificant variation in their HIV/AIDS risk-taking behaviours could be the result of modifiable factors, such as the fact that males tend to be more willing to take risks. A similar study by Danjin and Onajole (2010, 7) reported that although more females reported a negative status than males, risky behaviours remained prevalent among both genders.

The finding that there is no statistically significant difference between youths from either socio-economic background and their HIV/AIDS risk-taking behaviours could be attributed to the fact that, despite their backgrounds, the respondents were still significantly knowledgeable about HIV/AIDS, and all attended the same classes, seminars or campaigns within the university environment to receive information on this infectious disease. A study of unmarried adolescent students by Morrison-Beedy, Nelson and Volpe (2005, 510) found no statistically significant difference in HIV-

related risk behaviours between the groups participating in their study, based on their socio-economic status and education level; however, there were differences related to age. Literacy is not often determined by the socio-economic background but rather by the level of exposure and experience. In the present study, both groups were able to read and write, and most had at least a radio in the home. Since they had all at some stage listened to programmes about the disease, their risky behaviours were not determined by their socio-economic background, but by their level of awareness.

Implication of this Study for Public Health and Clinical Practice

Although the study showed that students at a university in Enugu, Nigeria, had knowledge of HIV/AIDS, some misconceptions existed around the causes, modes of transmission and curability of the disease. It is expected that where there are gaps between the level of awareness and risky behaviours, nurses, doctors and other healthcare providers will disseminate the relevant information on staying healthy and preventing the spread of HIV/AIDS. This means that more awareness programmes or campaigns should be hosted in this locality. Health workers (especially public health educators) should redirect and repackage the contents of their health education materials so as to fill any gaps between youths' knowledge about the disease and their risk-taking behaviours. If they actively engage in educating youths to curb a possible rise in risky behaviours, such health promotion will assist with disease prevention and health maintenance, especially as regards HIV/AIDS.

The implication of this study for public health is that it encourages health workers and educators to redirect and repackage the content of their programmes so as to resensitise youths towards a change of behaviour as well as a change in attitude – both of which will assist in preventing the spread of the disease.

Limitations

The findings of this study cannot be generalised to other universities in the Enugu metropolis, as only one tertiary institution was sampled for data collection. Some universities were on recess while others were busy with examinations at the time of the study.

Recommendations

The recommendations of this study are made with regard to clinical practice, disease prevention and future research.

Clinical Practice

There is a need for healthcare providers (doctors, nurses, midwives and community health officers) to enhance their health education and campaigns on HIV/AIDS, as the results of this study have shown that some students still lack knowledge of key concepts related to the disease. Since risky behaviours are prevalent among university youths, with risk-taking being more of an attitudinal rather than a knowledge deficit, efforts should be directed towards value reorientation and the effecting of attitudinal changes through peer group and focused group education.

Disease Prevention

Preventive strategies should involve people from all walks of life, and could include the distribution of free clippers and shaving blades. Government and NGOs should be strongly committed to providing grooming kits and sponsoring programmes, seminars and conferences on HIV/AIDS, especially at institutions of higher learning in Nigeria. Because this study revealed that some respondents have had same-sex intercourse, the university authorities should make an effort to adopt peer-based education programmes or peer-based interventions to effect important health-related behavioural changes among these students, as nobody is immune to the disease. Educational interventions on students' knowledge of, and attitudes to, sexually transmitted infections, HIV and preventive behaviours should become a routine activity aimed at both prevention and control.

Future Research

It is recommended that a health education intervention study be conducted in the study area in the future, to determine students' willingness to adopt preventive and adequate control strategies to combat the spread of HIV/AIDS.

Conclusion

This study investigated the HIV/AIDS knowledge and risk-taking behaviours of youths at a federal university in Enugu. The survey provided evidence, which allowed the researchers to conclude that the study respondents had a sound knowledge of HIV/AIDS, but that a subset of them still engaged in risk-taking behaviours such as premarital sex, having multiple sexual partners, having sex frequently, tribal marking, the use of public clippers and the sharing of razor blades. There was no statistically significant ($p > 0.05$) relationship between these youths' knowledge of HIV/AIDS, their gender, their socio-economic background and their HIV/AIDS risk-taking behaviours.

References

- Abbas, I., R. R. Akarro. 2012. "Some Determinants of Factors Associated with HIV/Aids Risk Behaviours among University of Dodoma Students in Tanzania." *East African Journal of Public Health* 9 (3): 112–17. <https://www.ncbi.nlm.nih.gov/pubmed/23136707>.
- Abdulrahman, G. O. 2007. *Concept of Risk and Risk Management*. Cardiff: Cardiff University.
- Adefuye, A. S., T. C. Abiona, J. A. Balogun, and M. Lukobo-Durrell. 2009. "HIV Sexual Risk Behaviors and Perception of Risk among College Students: Implications for Planning Interventions." *BMC Public Health* 9:281. <https://doi.org/10.1186/1471-2458-9-281>.
- AVERT (Anti-Virus Emergency Team). 2016. "HIV and Aids in Nigeria." Accessed 18 July 2018. <https://www.avert.org/professionals/hiv-around-world/sub-Saharan-africa/nigeria>.
- Danjin, M., and A. T. Onajole. 2010. "HIV/Aids Risk Behavioural Tendencies among Secondary School Students in Gombe (Nigeria)." *Internet Journal of Health* 11 (1): 1–10.
- FMOH (Federal Ministry of Health). 2006. "National HIV Sero-Prevalence Sentinel Survey." National Bureau of Statistics. [www.nigerianstat.gov.ng>download](http://www.nigerianstat.gov.ng/download).
- FMOH (Federal Ministry of Health). 2010. "National HIV Sero-Prevalence Sentinel Survey." National Bureau of Statistics. [www.nigerianstat.gov.ng>download](http://www.nigerianstat.gov.ng/download).
- Kumar, V., A. K. Abbas, N. Fausto. 2005. *Robbins and Cotran Pathologic Basis of Disease*. 7th ed. Philadelphia: Elsevier.
- Morrison-Beedy D., L. E. Nelson, and E. Volpe. 2005. "HIV Risk Behaviors and Testing in Adolescent Girls: Evidence to Guide Clinical Practice." *Paediatrics Nursing Journal* 31 (6): 508–12.
- Shuttleworth, M. 2008. "Descriptive Research Design: Observing a Phenomenon." Accessed 3 July 2011. <https://explorable.com/descriptive-research-design>.
- Suominen, T., C. Karanja-Pernu, J. Kylmä, J. Houtsonen, and M. Välimäki. 2011. "Knowledge, Attitudes and Risk Behaviour Related to HIV and Aids: The Case of International Students in a Finnish University." *Journal of Community Health* 36 (6): 910–18. <https://doi.org/10.1007/s10900-010-9353-3>.
- UNAIDS (Joint United Nations Programme on HIV/AIDS). 2016. *Fact Sheets on Global HIV/Aids*. Accessed 18 July 2018. <https://www.unaids.org/en/resources/fact-sheet>.
- University Records Department. 2014. *Population of Undergraduate Students in Enugu Campus, University of Nigeria*. Accessed by the researchers in hard copy.
- WHO (World Health Organization). 2015. *Fact Sheets*. <https://www.who.int/mediacentre/factsheets/fs360/en>.
- Yahaya, L. A., A. A. G. Jimoh, and O. R. Balogun. 2010. "Factors Hindering Acceptance of HIV/AIDS Voluntary Counseling and Testing (VCT) among Youths in Kwara State, Nigeria." *Journal of AIDS and HIV Research* 2 (7): 138–43.